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DISSERTATION REPORT On Impact of Hippocampal Headlines on Advertisement Effectiveness and Brand Recognition

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CHAPTER 1

1.1 CONCEPTUAL FRAMEWORK

Neuromarketing or Hippocampal Headlines

Neuromarketing is the utility of neuroscience and cognitive technology to advertising. This can encompass marketplace studies that attempts to find out consumer needs, motivations, and options that conventional techniques like surveys and recognition organizations can't reveal. Neuromarketing can encompass the assessment of unique advertising, packaging, content material etc. to greater as it should be recognized how clients react on the non-aware level. And, it may encompass making use of the know-how acquired from neuroscience and cognitive technology studies to make advertising greater powerful without trying out unique advertisements or different materials. "Consumer neuroscience" is every so often used as a synonym for neuromarketing.

"Neuromarketing" or Hippocampal headlines loosely refers to measuring physiological and neural signals to gain insights into customer motivations, preferences, and decisions that can help inform

creative advertising, product development, pricing, and other areas of marketing. Brain scanning, which measures neural activity, and physiological tracking, which measures eye movements and other indicators of that activity, are the most common measurement methods.

Hippocampus, a region of the brain primarily associated with memory. The name hippocampus derives from the Greek hippocampus hippos means "horse" and kampos means "sea monster" because the shape of the structure resembles that of a seahorse. The hippocampus, located in the inner region of the temporal lobe, is part of the limbic system, which is particularly important in regulating emotional responses. The hippocampus is thought to be primarily involved in storing long-term memories and making those memories resistant to forgetting.

Advertisement Effectiveness

Advertisements are the backbone of any business, and undoubtedly, brands should focus on the relevant ad campaigns to optimize their reach, lead generations, and sales. In order to understand how effective, the advertisement has been the brand needs to measure the marketing efforts. Advertising Effectiveness is the process to learn if the ads by a brand are targeting the right audience and how successful the ads are. It helps understand if the ads have any impact on the audience. With ad effectiveness, you can identify the strengths and weaknesses of the marketing campaigns.

In advertising effectiveness research, consumer attitude includes brand (A) is a crucial variable affecting advertising effectiveness and attitude toward brand (B). Most of the prevailing literature emphasizes the mediating role of brand (A) in promoting brand (B) and brand purchase intention (Howard, 1977; Mitchell and Olson, 1981; Moore and Hutchinson, 1983). In social media advertising, these classic advertising effectiveness models also contribute to well explaining the consequences of brand (C) on brand (B) and buy intention (Duffett, 2015; Huang et al., 2013). Specially, Huang et al. (2013) first explored social media advertising effectiveness by expanding MacKenzie et al. (1986)'s advertising effectiveness models to look at the mediating role of brand (C) within the relationship between brand content cognition and every of the following: brand (B), product purchase intention, and content-sharing intention. Based on the prior studies on S-O-R paradigm and advertising effectiveness models, we further explore the mechanism of social media advertising via examining factors influencing brand (C), which then promotes product purchase intention and brand content sharing intention.

Brand Recognition

The term brand recognition refers to the power of consumers to spot a selected brand by its attributes over another one. Brand recognition may be a concept utilized in advertising and marketing. It's considered successful when people are ready to recognize a brand through visual or auditory cues like logos, slogans, packaging, colors, or jingles instead of being explicitly exposed to a company's name. Companies often conduct marketing research to work out the success of their brand recognition strategies.

The concept of brand name loyalty has been extensively discussed in traditional marketing literature with the most emphasis on two different dimensions of the concept: behavioral and attitudinal loyalty. Oliver (1997) has presented a conceptual framework of brand name loyalty that has the complete spectrum of brand loyalty supported a hierarchy of effects model with cognitive, affective, conative (behavioral intent), and action (repeat purchase behavior) dimensions. Schultz (2000) describes customer/brand loyalty in cyberspace as an evolution from the normal product driven, marketer controlled concept towards a distribution driven, consumer controlled, and technology-facilitated concept. . As extensively discussed in Schefter and Reichheld (2000), e-loyalty is all about quality customer support, on-time delivery, compelling product presentations, convenient and fairly priced shipping and handling, and clear and trustworthy privacy policies.

1.2 LITERATURE REVIEW

H1- Hippocampal Headlines have significant on Advertisement Effectiveness

In the research of Neuromarketing by (Douglas L. Fugate in the year of 2007) highlighted the fact that the scope of such headlines with respect to neuromarketing could be seen while creating a behavioral model which would help in anticipating the consumption problems that brain structures under this study demanding need for other experimental methods which would help in measuring the contribution that each brain structure makes to the overall decision making of an individual. Combining neural activity images with conventional tools may produce more effective marketing practices. Such as EEG (electroencephalography) and fMRI (functional magnetic resonance imaging), which have been traditionally used by doctors and researchers to study neuropsychological disorder as EEG (electroencephalography) and fMRI (functional magnetic

resonance imaging), which have been traditionally used by doctors and researchers to study neuropsychological disorder as EEG (electroencephalography) and fMRI (functional magnetic resonance imaging), which have been traditionally used by doctors and researchers to study neuropsychological disorder as EEG (electroencephalography) and fMRI (functional magnetic resonance imaging), which have been traditionally used by doctors and researchers to study neuropsychological disorder.

In another research of Neuromarketing in India (Keshav Bhati , 2014,) observed that tools such as eye tracking, electroencephalography (EEG) and functional resonance imaging (fMRI) of neuromarketing resulted in causing a unique pattern in the brain activity of the consumer. Therefore, the observation in this study was that advertisements respectively stimulated the regions of the brain that processed their visual inputs and that the Effie selections though had an average impact get triggered positive emotions while disabling the negative ones.

Another research by (Rumen Pozharliev, Atal; Willem J.M.I. Verbeke and Richard P. Bagozz in the year 2017) concluded that it was actually the consumer neuroscience marketers who benefited in terms of predicting and understanding the consumer buying pattern through neuromarketing yet another observation in this research was that consumer neuroscience studies had adopted the isolated brain approach which helped in the better understanding and prediction of consumer responses in respect to various advertising messages. According to (Suraj Panigrahi, 2018) eye tracking technology has helped in identifying that when the baby looks face on in AD the viewers are actually more focused on the babies' face, however, when there is a baby who is directing at the product in AD then the viewer tends to be focusing on the advertising content more. Md.Hafez in (2019) authored his work neuromarketing primarily remains that FMRI, EEG, Eye tracking were such neuromarketing tools that were extremely critical and gave an insight in developing as to what a person feels or thinks along with how he actually responds to a specific brand. This research also concluded that various neuromarketing tools tend to recognize specific areas, prefrontal cortex that the brain activates while responding to certain kinds of cognition and emotional processing, that in turn lead a customer to buy or purchase a particular brand above stated research that advertisers and marketers if use neuromarketing tools in the correct and ethical manner they lead to maximum benefits essentially for the marketers.

Ahmed H. Alsharif Atal; Salleh, N.Z.M. Baharun, R. Hashem E, A.R. Mansor, A.A. Ali, J. Abbas (2021) in their study in Malaysia observed that neuroimaging techniques which included the FMRI, EEG, FMIRS etc. helped in assessing the neural correlation of decision making, cognition, and emotional processes which proved to be beneficial for marketing researches. Hence, this research concluded that neuromarketing was introduced for exploring, understanding, analyzing, and explaining the consumer behavior with respect to emotional processes and cognition towards advertising campaigns.

Lobna Ben Nasr (2014) studied neuroscience tools, techniques and observed the cognitive and affective mechanisms governing the purchase decisions of consumers. It was found that apart from the above stated stimuli which are ego, emotionality, tangible facts, contrast, visual and story-telling in the brain along with other deep metaphors that helped in providing the advertisers in advancing the techniques for attracting their customers attention better and tools like Functional Magnetic Resonance Imaging (fMRI), Steady State Topography (SST), Galvanic Skin Response (GSR), Electroencephalography (EEG), Eye tracking, Magneto-encephalography (MEG) helped in discovering the various subconscious drives in the human brain that affected the purchasing decisions of an individual and emotions were drawn towards a product with the help of neuromarketing so as to better satisfy the consumer needs. The key observation in this research was that different advertisement designing affected differently to different criteria and basis.

Sunita Kumar (2015) primarily revealed that the advertisers initially wanted to target the emotional side of the brain following which remained the primitive brain. Neuromarketing points out to the fact that emotional thinking and rational thinking can coexist together and are interdependent on each other. However, this research primarily pointed out to the fact that emotions get people's attention thereby helping them and their brain to focus on the matter, thereby resulting in satisfaction or dissatisfaction. Dr. Hakan Boz (2015) measured parameters of neuromarketing wherein he used a questionnaire which included parameters of EEG, galvanic skin response (GSR), heart rate and eye tracking. This study revealed that techniques of traditional data collection were actually insufficient while measuring the emotional responses of customers with regards to the products or services so advertised.

Arturas Kaklauskas Atal; Vytautas Bucinskas (2019) identified that positive emotions in marketing campaign specifically aimed at convincing the customers and the potential users while making them

experience positive emotions that resulted in and in convincing them to buy certain products by changing their behavior, attitude and point of view towards the same.

H2- Hippocampal Headlines have significant effect on Brand Recognition

Mark D'Esposito of University of California and Bradley R Postle (2014) emphasized on the important role that the working memory played as a part of cognitive control. The most important point to be noticed here is that it is a prefrontal cortex which is hierarchically arranged providing important signals that tend bias to the buyers while correcting the goal directed behavior of an individual. Dinko Jukić (2019) explicitly spoke about how extensive an impact is caused upon brand building and recognition by neuromarketing. In this study it was clearly found out that it is actually the positive image of brands which end up producing distinct associations which are powerful in the minds of consumers. Thus, it is the mind which actually processes the image of an object in a consumer's brain. Various factors that concern a product or service tend to be the experiences, the attitudes and the structures which are in turn perceived as a picture or an image or an experience that is complex in nature. This in turn results in the building of a brand image in the minds of the consumers. Moreover, in addition to this it was found in this research that though Effie selections do not have an exorbitant impact but succeed at triggering positive emotions in the viewers while dispersing away with the negative ones. Neuromarketing through graphics transmission not only derives on objects physical features but also relates to the emotions of the viewers.

H3- Advertisement have significant impact on Brand Recognition

In April 2013, Qasim Ali Nisar of Superior University in Lahore stressed that advertisements might positively affect consumers' purchasing decisions. The most crucial thing to take note of here, after the results and findings, is that if people are well aware of the brand and have positive brand perception loyalty and association, then brand image will naturally grow stronger and more entrenched in their minds, influencing their purchasing decisions.

This study offers firms and businesses advice on how to improve their marketing and advertising efforts in order to draw in more clients. With the aid of this study, we can see how crucial brand image and advertising are to the growth of any company. This is a true representation of how advertising and brand image influence how individuals behave while making purchases.

H4- Impact of gender on Advertisement Effectiveness

This finding is consistent with Morrison and Shaffer's (2003) finding that participants with traditional gender orientations expressed a significantly more positive product evaluation and greater purchase intention for a product that appeared in a traditional advertisement compared to their evaluation of the same product. For a non-traditional display. Findings that advertising effectiveness improves when role-playing matches the recipient's role orientation. According to Owolabi Benjamin Ademola of Ado University (2009), studies also showed that while participants often said they did not favor stereotypical depictions of men and women in advertising or elsewhere, their response to ads and commercial speakers and their purchase intent behaviors were more positive were in response to gender stereotypes than to non-traditional advertising.

Based on the findings of Whipple et al. (1985) they state that effective role performances are a function of three factors: reasonable match between the gender of the model being portrayed and the gender image of the product; the venue of the performance; and the literacy and realism of representations. Research on similarity and attraction suggests more general responses to difference between themselves and others, that is, people prefer other people who share their attitudes, personal characteristics, behavioral tendencies, and emotional expressiveness.

H5- Impact of gender on Brand Recognition

According to Yoon C. Cho of KDI School Of Public Policy And Management, Korea (2007) finds that customers cannot easily make purchasing decisions for sensory products in both the catalog and e-commerce environment, the attitudes and behavior of customers are quite different. The main results suggest that companies dealing in sensory products should manage multi-retailer formats in order to improve customer purchase propensity and that these retailers should also provide better quality information.

This study also found that women are more likely to buy sensory products through catalog stores, while men prefer online stores. The study found that customer-perceived ease of use, usefulness, and willingness to purchase sensory products are higher with multichannel. However, it was also found that the willingness of male customers to buy a sensory product online was no greater than that of female customers.

1.3 RESEARCH GAP

This study incorporates all the variables which are useful in studying about the Hippocampal headlines and neuroscience platforms. This will further fill the gap between Advertisement Effectiveness and all the variables which shows impact of Brand Recognition on the customers.

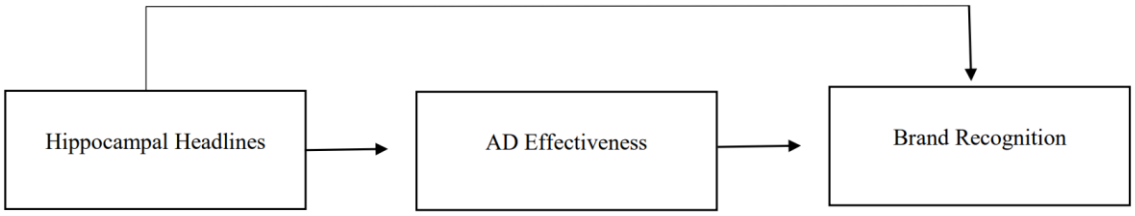
A previous study of the effectiveness of neuromarketing advertising by (Keshav Bhati, 2014) observed that tools such as eye tracking and EEG recording (EEG) cause unique patterns in consumer brain activity. Observations show that advertising stimulates the brain regions that process visual input, and Effie's choices elicit positive emotions on average, but turn off negative emotions. According to another study of brand awareness by Dinko Jukic (2019), it is the positive image of the brand that ultimately evokes a variety of compelling relevance to consumers. The mind that actually processes the image of an object in the consumer's brain.

Using standardized questionnaire for the study will fulfill the gap on the Impact of Hippocampal Headlines on Advertisement Effectiveness and Brand Recognition will help in allocating the process of decision making in consumer mind and on what basis purchase should be made.

1.4 OBJECTIVES OF THE STUDY

- To evaluate the impact of Hippocampal headlines on Advertisement Effectiveness.
- To evaluate the impact of Hippocampal headlines on Brand recognition.
- To evaluate the impact of Advertisement Effectiveness on Brand Recognition.
- To evaluate the mediation effect of Advertisement Effectiveness on the relationship between Hippocampal Headlines and Brand Recognition.
- To evaluate the difference on the basis of demographic variables (Gender) on Advertisement Effectiveness with Hippocampal Headlines and without Hippocampal Headlines.
- To evaluate the difference on the basis of demographic variables (Gender) on ad Brand Recognition without Hippocampal Headlines and with Hippocampal Headlines.
- To test the conceptual model.

1.5 PROPOSED CONCEPTUAL MODEL



1.6 Hypothesis of the Study

- H1- Hippocampal Headlines have significant effect on Advertisement Effectiveness.
- H2- Hippocampal Headlines have significant effect on Brand Recognition.
- H3- Advertisement Effectiveness significantly mediates the relationship between Hippocampal Headlines and Brand Recognition.
- H4- To evaluate the difference in Advertisement Effectiveness and Brand Recognition on the basis of gender.

CHAPTER – 2

RESEARCH METHODOLOGY

2.1 The Study

2.2 The Sample Design

2.2.1 Population

2.2.2 Sampling Technique

2.2.3 Sampling Size

2.2.4 Sampling Element

2.3 Tools used for Data Collection

2.4 Tools used for Data Analysis

CHAPTER 2

Research Methodology

2.1 The Study: The study was an exploratory study. Survey method was used to collect the data.

2.2 The Sample Design

2.2.1 Population: The population for this study was graduates and above in Madhya Pradesh.

2.2.2 Sampling Technique: Purposive sampling technique was used in this study.

2.2.3 Sampling Size: The sample size of this study was 210 users in Madhya Pradesh.

2.2.4 Sampling Element: The sampling element of this study was individual respondents.

2.3 Tools used for Data Collection: Standardized questionnaires was adapted to collect data on Advertisement Effectiveness (Keshav Bhati, 2014,) and Brand Recognition (Mark D'Esposito, 2014) Liker type scale was used to collect data where 1 indicated strongly disagree and 5 indicated strongly agree.

2.4 Tools used for Data Analysis:

Cronbach's Alpha Reliability Test was applied to check the reliability of Advertisement Effectiveness (Keshav Bhati, 2014,) and Brand Recognition (Mark D'Esposito, 2014) questionnaires.

Exploratory Factor Analysis was applied to identify the underlying factors of AD Effectiveness and Brand Recognition questionnaires.

One way ANOVA test was applied to evaluate the effect of gender on Advertisement Effectiveness and Brand Recognition.

Structural Equation Modeling (SEM) tool using Smart PLS was used to test the model.

CHAPTER-3

RESULTS & DISCUSSION

3.1 RELIABILITY ANALYSIS

3.2 KMO and Bartlett's Test

3.3 EXPLORATORY FACTOR ANALYSIS

3.4 ONE WAY ANOVA

3.5 STRUCTUAL EQUATION MODELING

CHAPTER 3

3.1 Reliability Analysis

Cronbach's Alpha Reliability coefficient was calculated using SPSS. The Cronbach's Alpha Coefficient represents internal consistency of the questionnaire. The results of Cronbach's Alpha Reliability of all the questionnaires of the study is given below:

S. No.	Variable Name	Cronbach's Alpha Value	No. of Item
1	Brand Recognition Without Hippocampal Headlines	.905	6
2	Advertisement Effectiveness Without Hippocampal Headlines	.925	15
3	Brand Recognition With Hippocampal Headlines	.856	6
4	Advertisement Effectiveness With Hippocampal Headlines	.912	15

The computed reliability of all measures was greater than 0.7. Thus, all the measures were considered to be fit for further analysis.

3.2 KMO and Bartlett's Test

S. No.	Variable Name	KMO Value	Bartlett's Test (Chi Square Value)	Sig. Value
1	Brand Recognition Without Hippocampal Headlines	.899	753.16	<.001
2	Advertisement Effectiveness Without Hippocampal Headlines	.948	1528.73	<.001
3	Brand Recognition With Hippocampal Headlines	.884	477.25	<.001
4	Advertisement Effectiveness With Hippocampal Headlines	.942	1272.33	<.001

Kaiser- Meyer-Olkin measure for sampling adequacy value for all the measures was higher than 0.5 indicating that the sample was adequate to apply exploratory factor analysis. Bartlett's Test of Sphericity was tested through Chi-Square values which were significant at <.001 level of significance indicating that the data is not spherical.

3.3 EXPLORATORY FACTOR ANALYSIS

Without Hippocampal Headlines

Exploratory factor analysis with Varimax Rotation was applied on Brand Recognition and Advertisement Effectiveness without Hippocampal Headlines to find out the underline factors of questionnaires. For Brand Recognition and Advertisement Effectiveness, the questionnaire converged on one factor only.

With Hippocampal Headlines

Exploratory factor analysis with Varimax Rotation was applied on Brand Recognition and Advertisement Effectiveness with Hippocampal Headlines to find out the underline factors of questionnaires. For Brand Recognition and Advertisement Effectiveness, the questionnaire converged on one factor only.

3.4 ANOVA TEST RESULTS

Table 1: Evaluate the effect of Gender on Brand Recognition without Hippocampal Headlines

Descriptives

V1

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Male	110	4.0909	.79999	.07628	3.9397	4.2421	1.17	5.00
Female	106	4.1274	.64675	.06282	4.0028	4.2519	1.00	5.00
Total	216	4.1088	.72737	.04949	4.0112	4.2063	1.00	5.00

Tests of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
V1	Based on Mean	3.492	1	214	.063
	Based on Median	1.164	1	214	.282
	Based on Median and with adjusted df	1.164	1	203.392	.282
	Based on trimmed mean	2.434	1	214	.120

ANOVA

V1

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.072	1	.072	.135	.714
Within Groups	113.677	214	.531		
Total	113.749	215			

ANOVA Effect Sizes[a,b]

		Point Estimate	95% Confidence Interval Lower	Upper
V1	Eta-squared	.001	.000	.023
	Epsilon-squared	-.004	-.005	.018
	Omega-squared Fixed-effect	-.004	-.005	.018
	Omega-squared Random-effect	-.004	-.005	.018

a. Eta-squared and Epsilon-squared are estimated based on the fixed-effect model.

b. Negative but less biased estimates are retained, not rounded to zero.

There are 110 Males and 106 Female in the given study without Hippocampal Headlines. As the significant value is above 0.005 as shown in table-1 which clearly indicates that there is no significant difference on Brand recognition between male and female respondents.

Table 2: Evaluate the effect of Gender on Advertisement Effectiveness without Hippocampal

Descriptives

V2

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Male	110	4.1927	.51492	.04910	4.0954	4.2900	2.87	5.00
Female	106	4.1830	.55336	.05375	4.0764	4.2896	2.07	5.00
Total	216	4.1880	.53291	.03626	4.1165	4.2594	2.07	5.00

Tests of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
V2	Based on Mean	.389	1	214	.534
	Based on Median	.088	1	214	.766
	Based on Median and with adjusted df	.088	1	206.557	.766
	Based on trimmed mean	.454	1	214	.501

ANOVA

V2

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.005	1	.005	.018	.894
Within Groups	61.053	214	.285		
Total	61.058	215			

Headlines

ANOVA Effect Sizes[a,b]

		Point Estimate	95% Confidence Interval	
			Lower	Upper
V2	Eta-squared	.000	.000	.013
	Epsilon-squared	-.005	-.005	.009
	Omega-squared Fixed-effect	-.005	-.005	.009
	Omega-squared Random-effect	-.005	-.005	.009

a. Eta-squared and Epsilon-squared are estimated based on the fixed-effect model.

b. Negative but less biased estimates are retained, not rounded to zero.

There are 110 Males and 106 Female in the given study without Hippocampal Headlines. As the significant value is above 0.005 as shown in table-2 which clearly indicates that there is no significant difference on Advertisement Effectiveness between male and female respondents.

Table 3: Evaluate the effect of Gender on Brand Recognition with Hippocampal Headlines

V1LOGO

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Male	110	4.1818	.58286	.05557	4.0717	4.2920	2.33	5.00
Female	106	4.1950	.54795	.05322	4.0894	4.3005	2.33	5.00
Total	216	4.1883	.56472	.03842	4.1125	4.2640	2.33	5.00

Tests of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
V1LOGO	Based on Mean	1.031	1	214	.311
	Based on Median	.062	1	214	.803
	Based on Median and with adjusted df	.062	1	199.648	.803
	Based on trimmed mean	.652	1	214	.420

ANOVA

V1LOGO

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.009	1	.009	.029	.865
Within Groups	68.557	214	.320		
Total	68.566	215			

ANOVA Effect Sizes[a,b]

		Point Estimate	95% Confidence Interval	
			Lower	Upper
V1LOGO	Eta-squared	.000	.000	.016
	Epsilon-squared	-.005	-.005	.011
	Omega-squared Fixed-effect	-.005	-.005	.011
	Omega-squared Random-effect	-.005	-.005	.011

a. Eta-squared and Epsilon-squared are estimated based on the fixed-effect model.

b. Negative but less biased estimates are retained, not rounded to zero.

There are 110 Males and 106 Female in the given study with Hippocampal Headlines. As the significant value is above 0.005 as shown in table-3 which clearly indicates that there is no significant difference on Brand Recognition between male and female respondents.

Table 4: Evaluate the effect of Gender on Advertisement Effectiveness with Hippocampal Headlines

V2LOGO

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Male	110	4.2091	.50097	.04777	4.1144	4.3038	2.93	5.00
Female	106	4.2414	.42830	.04160	4.1589	4.3239	3.07	5.00
Total	216	4.2250	.46592	.03170	4.1625	4.2874	2.93	5.00

Tests of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
V2LOGO	Based on Mean	6.350	1	214	.012
	Based on Median	2.655	1	214	.105
	Based on Median and with adjusted df	2.655	1	209.173	.105
	Based on trimmed mean	6.162	1	214	.014

ANOVA

V2LOGO

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.056	1	.056	.259	.611
Within Groups	46.617	214	.218		
Total	46.674	215			

ANOVA Effect Sizes[a,b]

		Point Estimate	95% Confidence Interval	
			Lower	Upper
V2LOGO	Eta-squared	.001	.000	.027
	Epsilon-squared	-.003	-.005	.022
	Omega-squared Fixed-effect	-.003	-.005	.022
	Omega-squared Random-effect	-.003	-.005	.022

a. Eta-squared and Epsilon-squared are estimated based on the fixed-effect model.

b. Negative but less biased estimates are retained, not rounded to zero.

There are 110 Males and 106 Female in the given study with Hippocampal Headlines. As the significant value is above 0.005 as shown in table-4 which clearly indicates that there is no significant difference on Advertisement Effectiveness between male and female respondents.

3.5 Structure Equation Model (SEM)

The research analyzed the outer model based on PLS measurement analysis which evaluates internal reliability and convergent validity by using confirmatory composite analysis in PLS- SEM. From Table-5 inner reliability by Cronbach's Alpha value and total items correlation was above the lower limit i.e. 0.70. The Cronbach's alpha value of Brand Recognition is 0.886, Advertisement Effectiveness is 0.913. Composite reliability and convergent validity, both were checked; the value of all the constructs are above threshold limit i.e. 0.7 (Hair et al., 2017) as a result, all the constructs have a high degree of internal consistency as the composite reliability value for Brand Recognition is 0.914, Advertisement Effectiveness is 0.926, The Rho_A threshold value limit is 0.7 which is defined by Hair et al. (2019), and the Rho_A value for Brand Recognition is 0.888, AD Effectiveness is 0.916. All values of Rho_A are higher than minimum criteria. Eventually, the convergent validity was also established with AVE values which are above the specified limit of 0.50 (Hair et al., 2019), Fornell & Larcker (1981). Average Variance Extracted can be calculated by the following basic static formulation.

$$\boldsymbol{AVE} = \frac{\sum_i \boldsymbol{\lambda_i^2}}{\sum_i \boldsymbol{\lambda_i^2} + \sum_i \boldsymbol{var(\varepsilon_i)}}$$

The AVE values for latent variables are; for Brand Recognition 0.638, AD Effectiveness 0.473.

After convergent validity the discriminant validity was verified using Fornell & Larcker's (1981) criteria. Discriminant validity assists to calculate the amount of variation measured by the latent variables and also analyzes the shared variance with other latent variables. Therefore, the bold numbers in are obtained from the results of the square root value of AVE in the latent variable. Also, the cross-factor loading matrix (Chin, 1998) was obtained and listed in Table 6.

The findings show the cross-loading of all indicator variables. The results demonstrate that the metrics have higher values for their corresponding endogenous variables as compared to other variables. It validates the latent variables in each construct, reflects the assigned latent variable and establishes the discriminant validity of the measurement model.

Table 5: Reflective model performance standard criteria and Discriminant Validity Assessments (Fornell and Larcker criteria 1981)

Constructs & Standard criteria	**Brand Recognition**	**Advertisement Effectiveness**
Cronbach's Alpha	0.886	0.913
Rho A	0.888	0.916
Composite Reliability	0.914	0.926
AVE	0.638	0.473
BR	**0.799**	-
AD EFF.	0.758	**0.688**

Table 6: Cross Loadings of Constructs

Indicators	**Latent Variable- 1 Brand Recognition**	**Latent Variable- 2 Advertisement Effectiveness**
AD1	0.468	**0.657**
AD10	0.575	**0.727**
AD12	0.512	**0.731**
AD13	0.447	**0.581**
AD14	0.510	**0.644**
AD15	0.585	**0.707**
AD2	0.491	**0.664**
AD3	0.425	**0.572**
AD4	0.485	**0.677**
AD5	0.552	**0.702**
AD6	0.568	**0.726**
AD7	0.519	**0.712**
AD8	0.551	**0.727**
AD9	0.567	**0.771**
BR1	**0.775**	0.536
BR2	**0.801**	0.614
BR3	**0.825**	0.623
BR4	**0.799**	0.612
BR5	**0.829**	0.636
BR6	**0.762**	0.601

In addition to Fornell and Larcker criteria (1981) & cross loading to determine the discriminant validity of latent variables, an advanced criterion HTMT (Heterotrait-Monotrait Ratio) of correlation was used. The statistical algorithm for HTMT Ratio of correlation is given below:

$$HTMT_{i_j} = \frac{\frac{1}{K_i K_j}\sum_{g=1}^{K_i}\sum_{h=1}^{K_j} r_{i_g \cdot j_h}}{\frac{2}{K_i(K_i-1)}\sum_{g=1}^{K_i-1}\sum_{h=g+1}^{K_i} r_{i_g \cdot i_h}\frac{2}{K_j(K_j-1)}\sum_{g=1}^{K_j-1}\sum_{h=g+1}^{K_j} r_{j_g \cdot j_h}}$$

The major dimensions of discriminant validity were determined by evaluating the HTMT ratio of correlations via a threshold ratio of 0.85 (Ringle and Sarstedt, 2015; Henseler et al., 2015). Gold et al. (2001) suggested an appropriate value is 0.9. In this research, the HTMT ratio of correlations was calculated. Hence, the results show that all values were lesser than the threshold limit i.e. 0.85. Thereby defining the individuality of all latent variables according to the statistical criteria (see Table-7.

Table 7: HTMT (Discriminant Validity Assessments)

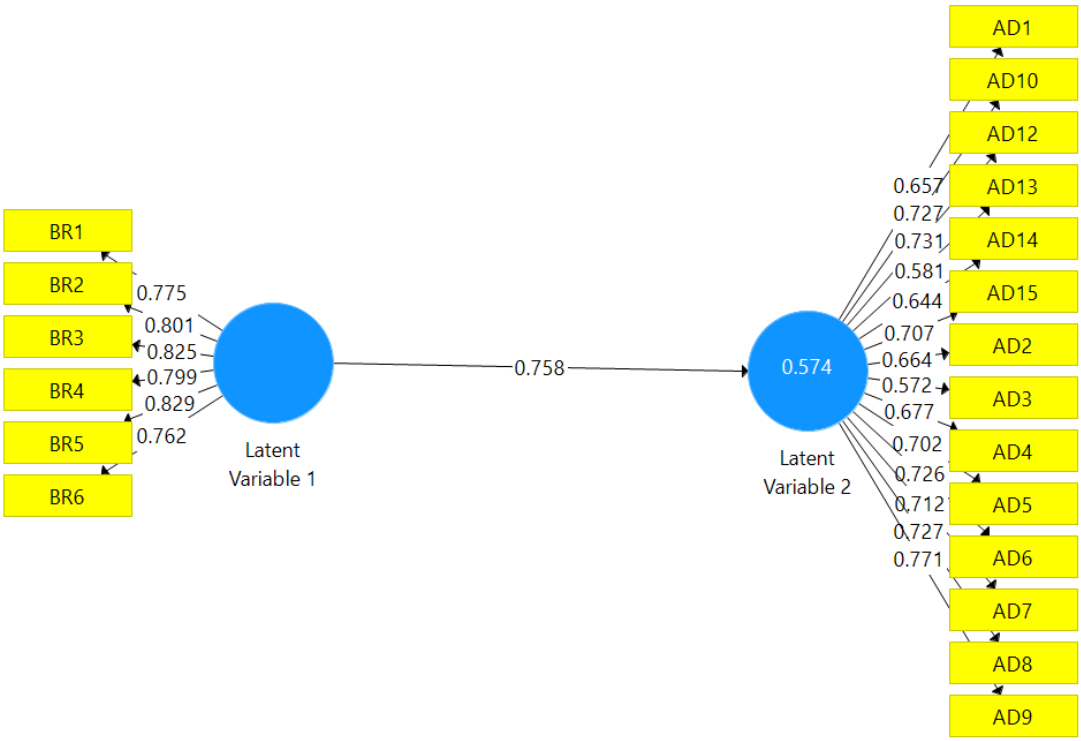
Constructs	**Brand Recognition**	**Advertisement Effectiveness**
Brand Recognition		
Advertisement Effectiveness	0.838	

Structural Model Assessments

The path coefficients analysis displays a significant, conceptual and theoretical connection between all the experimental results on the input and output sides of both the framework. In addition, the structural model was used to determine one or more predicated links as theorized in model determination (Hair et al., 2017; 2014). For this reason, the bootstrapping method has been used.

Before starting the analysis of the hypothesis, it is important to identify the VIF standards of latent variables. The variance inflation factor (VIF) standards found to be below 3 – 5. The internal VIF value in the study was calculated to be below the specified threshold limit with AD Effectiveness with latent variable Advertisement Effectiveness is 1.000.

Figure: 8 Structural Model Assessments



After analyzing VIF in measurement models, the next stage was to verify the significance and importance of the predictor variables, which must be in ranges between -1 & +1 by using the bootstrapping method through 5000 subsamples in the PLS Algorithm. The measurement of the SEM and the testing of hypotheses were analyzed, which is explained in Table 5.

Table 9: Structural Model Assessments and Mediation Measurement

Hypothesis	Hypothesis Relationship	Std. Beta	Sample Mean (M)	T Statistics (|O/STDEV|)	CI 2.5%	CI 97.5%	Decision
HH > BR	0.758	0.762	0.762	28.848	-	**0.00**	Supported
HH > AD EFF. > BR	0.758	0.762	0.762	-	0.705	0.812	Not Supported
HH > AD EFF.	0.758	0.762	0.762	-	0.803	0.698	Not Supported

The findings mentioned in Table-9 demonstrate a causal relationship between Brand recognition and Advertisement Effectiveness. The relationship was measured using standardized coefficient β (0.762) and tested using t statistic (0.026) for statistical significance; the value of $p \geq .05$ indicated that the relationship was positive and significant,

Accoring to the result in (Table-9) H1- Hippocampal Headlines have significant effect on Brand Recognition was supported, H2- Advertisement Effectiveness significantly mediates the relationship between Hippocampal Headlines and Brand Recognition was not supported and in H3- Hippocampal Headlines have significant effect on Advertisement Effectiveness was also not supported.

However, this relation was supported by many prior studies such as Joo Park (2006) and Akram (2018). The causal relationship between Brand recognition and Advertisement Effectiveness was found positive significant. The strength of relationship was measured by computing beta β (0.762) and tested for significance by computing with P value of 0.00, thus, hypothesis H1 was not supported. Similar results were obtained in the studies by Park et al. (2006), Japarianto and Sugiharto (2011) and Lipati (2015). The second hypothesis in the study was framed to test the causal relationship between Brand recognition and Advertisement Effectiveness. The relationship was evaluated by computing beta β (0.762) and tested for statistical significance by computing P- Nil, indicating that HSV had no significant effect on Advertisement Effectiveness. The results are in congruence with the findings of Tifferet (2012), Babin et al. (1994) and Park et al. (2006). In Third hypothesis in the study was framed to test the causal relationship between Brand recognition and Advertisement Effectiveness. The relationship was evaluated by computing beta β (0.762) and tested for statistical

significance by computing P- Nil, indicating that HSV had no significant effect on Advertisement Effectiveness.

There is a determination of coefficient (R^2) which describes the predictive accuracy of the endogenous variable and is determining the squared link among the actual and predicted values of the particular endogenous variable (Hair J F et al., 2014). The R^2 indicates the percent of variation in the endogenous construct which is explained by these exogenous constructs. The R^2 value varies from {0 to 1} and a value closer to 1 suggests a high level of accuracy (Hair J. F. et al., 2014). Thus, (Table-9) shows that the heterogeneity i.e. $R^2 = 0.574$. According to Chin et al. (1998), the results suggested that the model identifies a high variance on the other hand, an impulse buying also shows a high variance. The next step is to evaluate the effect of f^2. If the exogenous construct is eliminated from the model, the difference in the R^2 is used to measure if the eliminated construct has a significant effect on the endogenous latent variables (Hair J.F. et al., 2014). The f^2 standard values are 0.02, 0.15, & 0.35 suggests weak, moderate and strong impact of exogenous latent variable respectively (Cohen, 1988). The findings indicate that Advertisement Effectiveness independent variables display high effect size f^2 – 1.347.

Next, the blindfolding was used for a cross-validation strategy, cross-validation reports community & constructs cross-validated redundancy. The main objective of cross-validated measurements is to evaluate the model predictive validity (consistency) (David, 2016). It is only appropriate for endogenous variables of the reflective model, when Q^2 is greater than zero it implies that the SEM model is analytical for specified constructs. Even then, a Q^2 has a negative or zero value means that the model is inefficient in predicting the endogenous constructs. Cross validated redundancy is likely to be the most important measurement for blindfolding outcome because it refers to the model which is suitable for the PLS latent variable model (David, 2016). The Q^2 value recommended by Chin, 1998 is more than zero which implies that the model has predictive validity. The findings suggest that the Q^2 value of Advertisement Effectiveness is 0.251 which indicates a moderate effect. Now, the last step of the study is to examine SRMR. It helps to determine the average significance differences between the actual and the predicted correlations as an actual measure of the model fit evaluation criteria. According to Hair et.al. (2014; 2020), a value less than 0.08 is measured as good fit criteria. Therefore, the study examines that the SRMR value is 0.055 which shows that the model is a good fit as its value is below the threshold limit (Henseler et al., 2016).

Mediation Analysis

In the study, the variables of direct effect (DE) and indirect effect (IDE) were tested through variance accounted for (VAF). Where a mediation effect is measured, the study surveyed by (Nitzl et al., 2016; Preacher et al., 2008) and bootstrapping technique has been used for the IDE of a mediating variable on the model (HairJr et al, 2014)

By first studying the direct effects of the independent factors (FI, HSV, and SP) on the dependent variable (IB) without the mediating variable, and then adding the mediating variable PE in between, the mediating effect has been examined. A bootstrapping procedure using 569 data per subset for a total of 5000 subsamples without any significant changes was used to achieve the direct effect result from the PLS-SEM (Hair. et al., 2014). The PLS-SEM bootstrapping procedure determines the path coefficient and t-value. There is no mediating effect if the direct effect is not significant in the absence of a mediating variable. When the direct influence is large on either side, the second step involved further evaluation. Furthermore, the indirect. After establishing the importance of the direct relationship between the constructs, the mediator's effect is assessed. If indirect effects are determined to be negligible at the bootstrapping process's overall stage, there is no mediating effect. The third step will then be used to conduct additional analysis if it is found to be noteworthy. After validating the importance of the direct effect and the indirect effect, the strength of the mediating construct is evaluated.

CHAPTER-4

IMPLICATIONS & LIMITATIONS

CHAPTER-4

4.1 LIMITATIONS OF THE STUDY

- This study has been done in a very narrow prospective by taking respondents from Gwalior, Madhya Pradesh region.
- Lack of previous research on Hippocampal or Neuroscience Headlines and Neuromarketing industry on this topic.
- Financial resources was one in all the matter as we need some equipment or additional software to conduct the research. This might be a problem since we don't always have the sum we need.
- When we are finding new information, we utilize a selected research method and research methodology. Different methods offer you various opportunities.Quality of the datum you get often depends on the strategy you select.
- People might not be familiar with the topic Hippocampal headlines.

4.2 IMPLICATIONS OF THE STUDY

- This study can be done in other sectors as well.
- This research can be done in other cities and region also.
- The questionnaire developed in this study can be used for further research by researchers.
- The study can be useful for the organizations so that they can concentrate on the factors, which have affected the Advertisement Effectiveness and Brand Recognition.
- This study will be beneficial for further research in similar areas.

CHAPTER-5

SUMMARY

CHAPTER-5

SUMMARY

The study is structured into six chapters; introduction is the first chapter which contains six subparts (a conceptual framework, a literature review, research gap, objectives of the study, conceptual model, hypothesis of study). The variable of the study were introduced in the conceptual framework. All prior research that is connected to the topic is written up in the review of literature. Understanding the study's need and significance is aided by its research gap, the outcomes that were aimed to achieve are under objectives, conceptual model is developed on the basis of literature review which was later tested through various test, hypothesis a testable statement about the relationship between two or more variables

Second chapter is Research methodology, which includes the framework in which the research is being conducted. This part included the nature of the research study, population, sampling technique, sample size, sample element, tools used for data collection and tools used for data evaluation.

Third chapter is Results and Discussions; in this chapter the results of different tests are included. Different test was applied on the data which was collected through questionnaire such as Cronbach's Alpha Reliability test was applied to check the reliability of Advertisement Effectiveness and Brand Recognition, Exploratory Factor Analysis was applied to identify the underlying factors. One way ANOVA test was applied to evaluate the effect of gender on Advertisement Effectiveness and Brand Recognition. Structural Equation Modeling (SEM) tool using Smart PLS was used to test the model.

Fourth chapter of study is Implications and Limitations. The implication part includes the applicability part of the study and limitation part includes all the limitations which was found while conducting the research.

Fifth chapter includes the Summary of report.

Sixth chapter includes the Conclusions.

CHAPTER-6

CONCLUSION

CHAPTER-6

CONCLUSION

Standardized questionnaires were developed for evaluating the Impact of Hippocampal Headlines on Advertisement Effectiveness and Brand Recognition using two set of questionnaire one without hippocampal headlines and the other one with Hippocampal Headline.

According to the result reliability test on Advertisement Effectiveness and Brand Recognition without and with Hippocampal Headlines was greater than 0.7, Thus the measures were considered to be reliable.

As per the result of KMO test measure for sampling adequacy value for all the variable was higher than 0.5 indicating that the sample was adequate to apply exploratory factor analysis. Result for Bartlett's Test of Sphericity was tested through Chi-Square values which should be significant at 0.5 but the values for Advertisement Effectiveness and Brand Recognition were <.001 which indicates that data is not spherical.

The result for exploratory factor analysis with varimax rotation was applied on variable Advertisement Effectiveness and Brand Recognition excluding and including Hippocampal Headlines to find out the underline factors. The observation after the analysis was that the questionnaire converged into one factor only for both the variable

Testing One Way ANOVA to evaluate the Impact of Gender on Advertisement Effectiveness and Brand recognition with and without Hippocampal Headlines indicated that value in all four test is more than the significance level 0.5. So there is no significance effect on gender with respect to Advertisement Effectiveness and Brand Recognition.

The SEM result prove that the conceptual model is a good.

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ANNEXURE

Questionnaire for Advertisement Effectiveness and Brand Recognition without Hippocampal Headlines.

I Gaurang Kakkad is pursuing MBA from ITM University, Gwalior. I'm conducting research as a part of my thesis. The data so collected will solely be useful for academic purpose.

Kindly fill the questionnaire given below:

Name: _____

What gender do you identify as?

Male	
Female	

Brand Recognition

1	2	3	4	5
Strongly Disagree	Slightly Disagree	Neither Disagree Nor agree	Slightly Agree	Strongly Agree

		1	2	3	4	5
1.	I am generally aware of this brand.					
2.	I am aware of this brand.					
3.	I am quite familiar with this brand.					
4.	I have heard of this brand.					
5.	People are aware of this brand.					
6.	I can recognize this brand among other brands.					

Advertisement Effectiveness

1	2	3	4	5
Strongly Disagree	Slightly Disagree	Neither Disagree Nor agree	Slightly Agree	Strongly Agree

		1	2	3	4	5
1.	This advertisement results in exposure about the product					
2.	This advertisement allows the curiosity about the product.					
3.	This advertisement resulted in awareness about the product.					

4.	This advertisement motivated me buy the product.					
5.	This advertisement helped me remembering the product.					
6.	This advertisement changed my attitude toward the product.					
7.	This advertisement touched my emotions.					
8.	This advertisement was highly engaging.					
9.	The advertisement will motivate me to repurchase the product.					
10.	The advertisement was visually appealing and engaging.					
11.	The advertisement was very crisp					
12.	I felt convinced I should buy the product.					
13.	The advertisement was easy to understand.					
14.	Then advertisement was better the other advertisement of the same product.					
15.	I would like to see more advertisement like this in future.					

Questionnaire for Advertisement Effectiveness and Brand Recognition with Hippocampal Headlines.

I Gaurang Kakkad is pursuing MBA from ITM University, Gwalior. I'm conducting research as a part of my thesis. The data so collected will solely be useful for academic purpose.

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Brand Recognition

1	2	3	4	5
Strongly Disagree	Slightly Disagree	Neither Disagree Nor agree	Slightly Agree	Strongly Agree

		1	2	3	4	5
1.	I am generally aware of this brand.					
2.	I am aware of this brand.					
3.	I am quite familiar with this brand.					
4.	I have heard of this brand.					
5.	People are aware of this brand.					
6.	I can recognize this brand among other brands.					

Advertisement Effectiveness

1	2	3	4	5
Strongly Disagree	Slightly Disagree	Neither Disagree Nor agree	Slightly Agree	Strongly Agree

		1	2	3	4	5
1.	This advertisement results in exposure about the product					
2.	This advertisement allows the curiosity about the product.					
3.	This advertisement resulted in awareness about the product.					
4.	This advertisement motivated me buy the product.					
5.	This advertisement helped me remembering the product.					
6.	This advertisement changed my attitude toward the product.					
7.	This advertisement touched my emotions.					
8.	This advertisement was highly engaging.					
9.	The advertisement will motivate me to repurchase the product.					
10.	The advertisement was visually appealing and engaging.					
11.	The advertisement was very crisp					

12.	I felt convinced I should buy the product.					
13.	The advertisement was easy to understand.					
14.	Then advertisement was better the other advertisement of the same product.					
15.	I would like to see more advertisement like this in future.					

Reliability Test

Reliability Test of Brand Recognition without Hippocampal Headlines

Case Processing Summary

		N	%
Cases	Valid	216	100.0
	Excluded[a]	0	.0
	Total	216	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.905	6

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Q1	20.5602	13.773	.718	.891
Q2	20.5787	13.259	.751	.886
Q3	20.5880	13.053	.781	.882
Q4	20.5370	13.199	.736	.889
Q5	20.5278	13.199	.783	.881
Q6	20.4954	14.260	.663	.899

Reliability Test of Advertisement Effectiveness without Hippocampal Headlines

Case Processing Summary

		N	%
Cases	Valid	216	100.0
	Excluded[a]	0	.0
	Total	216	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.925	15

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Q7	58.5787	56.915	.589	.921
Q8	58.5833	56.756	.594	.921
Q9	58.5972	57.907	.511	.923
Q10	58.6713	55.236	.638	.920
Q11	58.6667	56.037	.659	.919
Q12	58.6296	55.406	.684	.919
Q13	58.7315	54.290	.699	.918
Q14	58.6435	55.077	.702	.918
Q15	58.7176	54.018	.737	.917
Q16	58.6065	55.775	.697	.918
Q17	58.6759	55.746	.643	.920
Q18	58.6343	54.894	.709	.918
Q19	58.5463	58.342	.492	.924
Q20	58.6343	56.838	.612	.921
Q21	58.5556	56.183	.679	.919

Reliability Test of Brand Recognition with Hippocampal Headlines

activate

Case Processing Summary

		N	%
Cases	Valid	216	100.0
	Excluded[a]	0	.0
	Total	216	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.856	6

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Q1	20.9306	8.484	.627	.835
Q2	20.9444	8.136	.629	.835
Q3	20.9398	8.020	.666	.828
Q4	20.9630	8.157	.641	.832
Q5	20.9306	8.056	.667	.827
Q6	20.9398	8.364	.633	.834

Reliability Test of Advertisement Effectiveness with Hippocampal Headlines

Case Processing Summary

		N	%
Cases	Valid	214	99.1
	Excluded[a]	2	.9
	Total	216	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.912	15

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Q7	59.0935	42.902	.613	.907
Q8	59.0841	43.260	.589	.908
Q9	59.1121	44.062	.513	.910
Q10	59.1682	42.760	.595	.907
Q11	59.1822	43.023	.624	.906
Q12	59.1355	42.634	.647	.906
Q13	59.1869	43.073	.620	.906
Q14	59.1355	43.198	.639	.906
Q15	59.1776	41.959	.694	.904
Q16	59.1215	43.206	.631	.906
Q17	59.1822	42.929	.621	.906
Q18	59.1028	42.966	.637	.906
Q19	59.0607	43.916	.559	.908
Q20	59.0327	43.600	.561	.908
Q21	59.0654	43.460	.608	.907

Factor Analysis Test

Factor Analysis of Brand Recognition without Hippocampal Headlines

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.899
Bartlett's Test of Sphericity	Approx. Chi-Square	753.169
	df	15
	Sig.	<.001

Communalities

	Initial	Extraction
Q1	.534	.578
Q2	.598	.631
Q3	.636	.693
Q4	.579	.606
Q5	.620	.694
Q6	.454	.490

Extraction Method: Principal Axis Factoring.

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Factor	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.071	67.846	67.846	3.693	61.551	61.551
2	.538	8.974	76.820			
3	.482	8.037	84.857			
4	.354	5.895	90.753			
5	.289	4.809	95.561			
6	.266	4.439	100.000			

Extraction Method: Principal Axis Factoring.

Rotated Factor Matrix[a]

a. Only one factor was extracted. The solution cannot be rotated.

Factor Analysis of Advertisement Effectiveness without Hippocampal Headlines

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.948
Bartlett's Test of Sphericity	Approx. Chi-Square	1528.735
	df	105
	Sig.	<.001

Communalities

	Initial	Extraction
Q7	.435	.370
Q8	.441	.382
Q9	.330	.280
Q10	.463	.441
Q11	.486	.468
Q12	.505	.508
Q13	.515	.530
Q14	.541	.538
Q15	.570	.591
Q16	.520	.531
Q17	.482	.452
Q18	.537	.548
Q19	.342	.262
Q20	.431	.406
Q21	.509	.501

Extraction Method: Principal Axis Factoring.

Total Variance Explained

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	7.337	48.914	48.914	6.809	45.396	45.396
2	.992	6.611	55.525			
3	.909	6.057	61.582			
4	.709	4.726	66.308			
5	.646	4.304	70.612			
6	.608	4.055	74.668			
7	.557	3.714	78.382			
8	.498	3.323	81.705			
9	.484	3.224	84.929			
10	.459	3.060	87.989			
11	.413	2.752	90.741			
12	.394	2.625	93.366			
13	.348	2.318	95.684			
14	.342	2.281	97.965			
15	.305	2.035	100.000			

Extraction Method: Principal Axis Factoring.

Rotated Factor Matrix[a]

a. Only one factor was extracted. The solution cannot be rotated.

Factor Analysis of Brand Recognition with Hippocampal Headlines

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.884
Bartlett's Test of Sphericity	Approx. Chi-Square	477.259
	df	15
	Sig.	<.001

Communalities

	Initial	Extraction
Q1	.406	.471
Q2	.401	.474
Q3	.451	.535
Q4	.428	.492
Q5	.460	.537
Q6	.409	.479

Extraction Method: Principal Axis Factoring.

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Factor	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.490	58.166	58.166	2.989	49.819	49.819
2	.581	9.687	67.853			
3	.566	9.426	77.280			
4	.528	8.798	86.077			
5	.436	7.258	93.336			
6	.400	6.664	100.000			

Extraction Method: Principal Axis Factoring.

Rotated Factor Matrix[a]

a. Only one factor was extracted. The solution cannot be rotated.

Factor Analysis of Advertisement Effectiveness with Hippocampal Headlines

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.942
Bartlett's Test of Sphericity	Approx. Chi-Square	1272.337
	df	105
	Sig.	<.001

Communalities

	Initial	Extraction
Q7	.433	.412
Q8	.429	.382
Q9	.323	.288
Q10	.411	.393
Q11	.460	.428
Q12	.471	.462
Q13	.419	.422
Q14	.426	.451
Q15	.497	.533
Q16	.439	.443
Q17	.466	.426
Q18	.445	.447
Q19	.341	.342
Q20	.383	.345
Q21	.412	.408

Extraction Method: Principal Axis Factoring.

Total Variance Explained

Factor	Initial Eigenvalues Total	% of Variance	Cumulative %	Extraction Sums of Squared Loadings Total	% of Variance	Cumulative %
1	6.763	45.089	45.089	6.183	41.218	41.218
2	.913	6.085	51.173			
3	.859	5.724	56.897			
4	.775	5.164	62.061			
5	.735	4.898	66.959			
6	.644	4.294	71.253			
7	.642	4.283	75.536			
8	.584	3.890	79.426			
9	.563	3.751	83.177			
10	.500	3.334	86.511			
11	.458	3.054	89.565			
12	.430	2.865	92.431			
13	.425	2.834	95.264			
14	.382	2.544	97.809			
15	.329	2.191	100.000			

Extraction Method: Principal Axis Factoring.

Rotated Factor Matrix[a]

a. Only one factor was extracted. The solution cannot be rotated.